

ACOUSTICAL IMAGING INTERFEROMETER FOR DETECTION OF BURIED UNDERWATER OBJECTS

ABSTRACT OF THE DISCLOSURE

[0049] Techniques for underwater detection of fully or partially buried objects such as sea mines and underwater cables are disclosed. An acoustical camera produces three dimensional volumetric images of a target area volume of an underwater floor. One or more first images are produced of the target area volume. An acoustical transducer pulse is then directed to the target area volume so as to disturb the loose particulate or elastic matter included in the target area. One or more second images are then produced while the pulse is present in the target area volume. The images can be compared for evidence of buried objects, or to otherwise evaluate objects included in the target area. The camera can be configured with an interferometer mode so as to produce volumetric images at a real-time frame rate.